

IN THE CLAIMS:

1. (Previously Amended) A method for coating an article, comprising the steps of:

providing the article having a surface;

preparing a coating source comprising:

a solid aluminum halide,

a solid fluoride or a solid iodide of a modifying element as a source of the modifying element, the modifying element being selected from the group consisting of zirconium, hafnium, and yttrium, and combinations thereof, and

a carrier gas;

producing a coating gas from the coating source, the coating gas comprising a gaseous aluminum halide, a gaseous fluoride or a gaseous iodide of the modifying element, and the carrier gas; and

contacting the coating gas to the article; and simultaneously

heating the coating gas and the article to a coating temperature of at least about 1850°F for a period of time sufficient to permit aluminum and the modifying element to coat onto the surface of the article.

2. (Original) The method of claim 1, wherein the step of providing the article includes the step of

providing the article with a platinum-enriched surface region thereon.

3. (Original) The method of claim 1, wherein the article is an airfoil made of a nickel-base superalloy.

4. (Original) The method of claim 1, wherein the aluminum halide is aluminum trifluoride.

5. (Original) The method of claim 1, wherein the fluoride of the modifying element is used, and the fluoride of the modifying element is a tetrafluoride of the modifying element.

6. (Original) The method of claim 1, wherein the coating source further includes elemental solid aluminum.

7. (Previously Amended) The method of claim 1, wherein the coating source further includes an elemental solid modifying element.

8. (Currently Amended) The method of claim 1, wherein the step of contacting preparing the coating gas source includes the step of providing the solid fluoride or the solid iodide of the modifying element separated from the article surface.

9. (Currently Amended) The method of claim 1, wherein the step of contacting preparing the coating source includes the step of providing the fluoride or the iodide of the modifying element applied directly to the article surface.

10. (Original) The method of claim 1, wherein the modifying element is zirconium.

11. (Original) The method of claim 1, wherein the modifying element is hafnium.

12. (Currently Amended) A method for coating an article, comprising the steps of: providing the article having a surface, the article being an airfoil;

preparing a coating source comprising:

a solid aluminum halide,

a solid fluoride of a modifying element as a source of the modifying element, the fluoride of the modifying element being selected from the group consisting of a zirconium fluoride and a hafnium fluoride, and combinations thereof, and

a carrier gas;

producing a coating gas from the coating source, the coating gas comprising a gaseous aluminum halide, a gaseous fluoride ~~or a gaseous iodide~~ of the modifying element, and the carrier gas; and

contacting the coating gas to the surface of the airfoil; and simultaneously heating the coating gas and the article to a coating temperature of from about 1850°F to about 2000°F for a period of time sufficient to permit aluminum and the modifying element to coat onto the surface of the airfoil.

13. (Original) The method of claim 12, wherein the step of providing the article includes the step of

providing the article with a platinum-enriched surface region thereon.

14. (Original) The method of claim 12, wherein the fluoride of the modifying element is zirconium tetrafluoride.

15. (Original) The method of claim 12, wherein the fluoride of the modifying element is hafnium tetrafluoride.

16. (Original) The method of claim 12, wherein the aluminum halide is aluminum trifluoride, the fluoride of the modifying element is zirconium tetrafluoride, and the weight ratio of aluminum trifluoride to zirconium tetrafluoride is from about 1.4:1 to about 3:1.

17. (Original) The method of claim 12, wherein the coating source further includes elemental solid aluminum.

18. (Previously Amended) The method of claim 12, wherein the coating source further includes an elemental solid modifying element.

19. (Currently Amended) The method of claim 12, wherein the step of contacting preparing the coating gas source includes the step of providing the solid fluoride of the modifying element separated from the airfoil surface.

20. (Currently Amended) The method of claim 12, wherein the step of contacting preparing the coating source includes the step of providing the fluoride of the modifying element applied directly to the airfoil surface.